



1 DISTRIBUTED RESOURCE RESERVATION SYSTEM FOR ESTABLISHING A
2 PATH THROUGH A MULTI-DIMENSIONAL COMPUTER NETWORK TO
3 SUPPORT ISOCHRONOUS DATA
4

5 ABSTRACT OF THE DISCLOSURE

6 A distributed method of establishing a path in a multi-dimensional computer network
7 comprising a plurality of nodes for transmitting isochronous data from a source node to a
8 destination node is disclosed. A request packet is injected into the network, the request packet
9 specifying a request to transmit the isochronous data from one of a plurality of source nodes.
10 The request packet is routed to at least one the plurality of source nodes, and the source node
11 determines whether it has sufficient resources to support transmitting the isochronous data. If the
12 source node comprises sufficient resources to support transmitting the isochronous data, the
13 source node reserves resources within the source node to support transmitting the isochronous
14 data, and transmits an ack packet from the source node to a first neighboring node. The first
15 neighboring node determines whether it has sufficient resources to support transmitting the
16 isochronous data. If the first neighboring node comprises sufficient resources to support
17 transmitting the isochronous data, the first neighboring node reserves resources within the first
18 neighboring node to support transmitting the isochronous data, and transmits the ack packet to an
19 adjacent node. If the first neighboring node does not comprise sufficient resources to support
20 transmitting the isochronous data, the first neighboring node transmits a nack packet to the
21 source node and the source node transmits the ack packet to a second neighboring node.

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